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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/521,529

06/27/2005

Per Thomas Moe

TS6375 US

8783

7590
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EXAMINER

MEHTA, MEGHA S

ART UNIT

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4116

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/521,529	Applicant(s) MOE ET AL.	
	Examiner MEGHA MEHTA	Art Unit 4116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/2005; 06/2005</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Status of the Application

1. Claims 1-12 are pending and presented for examination. Claims 1, 4 and 7 were previously amended, and claim 13 has been cancelled.

Priority

2. The foreign priority claim filed on 1/14/2005 was not entered because the foreign priority claim was not filed during the time period set forth in 37 CFR 1.55(a)(1). For original applications filed under 35 U.S.C. 111(a) (other than a design application) on or after November 29, 2000, the time period is during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior foreign application. For applications that have entered national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the claim for priority must be made during the pendency of the application and within the time limit set forth in the PCT and the Regulations under the PCT. See 37 CFR 1.55(a)(1)(ii). If applicant desires priority under 35 U.S.C. 119(a)-(d), (f) or 365(a) based upon a prior foreign application, applicant must file a petition for an unintentionally delayed priority claim (37 CFR 1.55(c)). The petition must be accompanied by (1) the claim (i.e., the claim required by 35 U.S.C. 119(a)-(d) and (f) and 37 CFR 1.55) for priority to the prior foreign application, unless previously submitted; (2) a surcharge under 37 CFR 1.17(t); and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.55(a)(1) and the date the claim was filed was unintentional. The Director may require additional information where there is a question

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whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Information Disclosure Statement

3. The information disclosure statement (IDS) was submitted on 1/14/2005 and 6/27/2005. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the IDS is being considered by the examiner. Please refer to the applicant's copy of the 1449 submitted herewith.

Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "2" has been used to designate both minimum forge length in paragraph [0027] and the end of the pipe in paragraph [0034]. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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6. Claims 1, 3, 5, 7, 10, 11 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regards to claims 1, 3, 10, 11 and 12, the term “substantially” is a relative term which renders the claim indefinite. The term “substantially” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Therefore, one would not know what the metes and bounds of the claims are.

In regards to claims 5 and 7, the terms “low grade” and “higher grade” are relative terms which renders the claim indefinite. The terms “low grade” and “higher grade” are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Therefore, one would not know what the metes and bounds of the claims are.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by US 4,669,650 Moe.

Independent claim 1 is drawn to a method for interconnecting tubulars where the ends are shaped such that they deform with heating and are related to the coefficient of thermal

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expansion. Moe teaches a method of joining tubes by forge welding where the tube ends are sloped and shaped related to the temperature distribution in the joint as described in column 1, lines 5-6, column 3, lines 11-15 and 24-36 and in figures 1, 2 and 3.

Claim 4 is drawn to the method for interconnecting tubulars as described above where the claim further requires that the ends of the tubulars are machined to reduce the wall thickness. Moe teaches this in figure 1, where the joints have a reduced wall thickness and therefore must have been machined down. Additionally, applicant mentions this in the specification of the instant application. Thus, all of the critical elements are well taught, and the claim is properly included in this rejection.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,669,650

Moe.

Claim 2 is drawn to the forge welding method described above where the claim further requires the ratio of D(t) to D(b) to be between 0.8 and 0.99. Moe fails to teach this range, however this range could have been easily found by one with ordinary skill in the art by process optimization. One with ordinary skill in the art at the time of the invention would be able to find the most preferred ratio of diameters for the geometry of the tube to facilitate a strong and clean weld.

12. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,669,650 Moe as applied to claim 1 above, and further in view of US 2,604,569 Denneen.

The claim is drawn to the method for interconnecting tubulars as described above where the claim is further drawn to concave and convex tubular ends. Moe fails to teach this. However, it would have been obvious to one of ordinary skill in the art at the time of invention to make this modification when Moe is taken in view of Denneen because Denneen teaches convex and concave tubular ends in figure 2.

It would have been obvious to one of ordinary skill to make this modification because both Moe and Denneen teach welding methods. One would have been motivated to make this modification because of the improved fitting together of the ends of the tubes.

13. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,669,650 Moe in view of Japanese Publication 03-243286 Masakatsu et al.

Claims 7 is drawn to the method for interconnecting tubulars as described above where the claim further requires that the ends be cladded such that machining does not expose the tubes. Moe further teaches the machining of tubular ends in figure 1. Moe fails to teach the cladding of tubes. However, it would have been obvious to one of ordinary skill to make this

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modification when Moe is taken in view of Masakatsu because Masakatsu teaches tubulars where the ends are clad in claim 3. Neither Moe nor Masakatsu teach that the tubes are not exposed. However, it would have been obvious to one of ordinary skill in the art to make this modification because of the protective quality of the cladding. It would be advantageous to leave some of the cladding on the tube.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combining these sources because both Moe and Masakatsu teach welding tubes together. One would have been motivated to make this modification because of the protection and potential strength that the cladding provides to the base tube.

14. Claims 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,669,650 Moe in view of US 2,604,569 Denneen as applied above(claims 1 and 3), further in view of Japanese Publication 03-243286 Masakatsu et al.

Claims 5 and 6 are drawn to the method for interconnecting tubulars as described above where claim 5 further requires the tubes to be cladded and for the cladding to touch before the tube bases touch. Claim 6 further requires the tube ends to be wedge shaped formed by the cladding. And claim 7 further requires the ends of the tubes to be cladded such that machining does not expose the pipe.

Moe fails to teach the cladding required by claim 5, however, this would have been obvious to one of ordinary skill in the art when Moe is taken in view of Masakatsu because Masakatsu teaches the cladding of the tube in claim 3 and the last line on page 2 to the first line on page 3. Moe also fails to teach the wedge-shaped ends as required by claim 6. However, it would have been obvious to one of ordinary skill in the art to make this modification because

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Masakatsu teaches claddings on the tips of the tubulars in figure 2. Both Moe and Masakatsu fail to teach wedge-shaped ends. However, it would have been obvious to one of ordinary skill to make such a modification when Moe and Masakatsu are taken in view of Denneen because Denneen teaches wedge shaped ends in figure 1.

Claims 7 is drawn to the method for interconnecting tubulars as described above where the claim further requires that the ends be cladded such that machining does not expose the tubes. Moe further teaches the machining of tubular ends in figure 1. Moe fails to teach the cladding of tubes. However, it would have been obvious to one of ordinary skill to make this modification when Moe is taken in view of Masakatsu because Masakatsu teaches tubulars where the ends are clad in claim 3. Neither Moe nor Masakatsu teach that the tubes are not exposed. However, it would have been obvious to one of ordinary skill in the art to make this modification because of the protective quality of the cladding. It would be advantageous to leave some of the cladding on the tube.

Claims 8 and 9 are drawn to the method described above where the claims further require a reducing flushing gas. Moe teaches a reducing flushing gas in column 2, lines 56-67.

It would have been obvious to one of ordinary skill to combine Moe, Masakatsu and Denneen because all three teach the welding of tubes. One would have been motivated to make such modifications because of the protective and potential strengthening advantages afforded by cladding on tubes and the improved fitting of pipes with wedge shaped ends.

15. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,669,650 Moe in view of US 2,604,569 Denneen, further in view of Japanese Publication 03-

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243286 Masakatsu et al as applied to claim 9 above, and further in view of US 2003/0080604 Vinegar et al.

Claims 10-12 are drawn to the method for interconnecting tubulars as described above where the claims further require the flushing gas to be a mixture of an inert gas and a reducing gas. Moe, Masakatsu and Denneen fail to teach this flushing gas mixture. However, it would have been obvious to one of ordinary skill to add this when Moe, Masakatsu and Denneen are taken in view of Vinegar because Vinegar teaches using this reducing gas and inert gas flushing mixture while forge welding in paragraph [1022] on page 81.

It would have been obvious to one of ordinary skill to combine these references because Moe, Masakatsu and Denneen teach the welding of tubes and Vinegar was also teaching a forge welding method. One would have been motivated to make such modifications because of the improved flushing effectiveness of such a flushing gas mixture.

Conclusion

1. No claim is allowed.
2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MEGHA MEHTA whose telephone number is (571)270-3598. The examiner can normally be reached on Monday to Friday 7:30 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on 571-272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Megha Mehta
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